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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,948	09/22/2003	Guy Cote	03-1230 1496.00340	1229
24319	7590	03/13/2007		
LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035			EXAMINER PHILIPPE, GIMS S	
			ART UNIT	PAPER NUMBER
			2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/667,948

Applicant(s)

COTE ET AL.

Examiner

Gims S. Philippe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948).
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/23/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

This is a first office action in response to application no. 10/667,948 filed on September 22, 2003 in which claims 1-15 are presented for examination.

Double Patenting

1. Claims 1-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 10/449,471. Although the conflicting claims are not identical, they are not patentably distinct from each other because one skilled in the art at the time of the invention would recognize the advantage of modifying the conditions set in claim 1-15 of application No. 10/449,471 in order to derive the limitations of claims 1-15 of the present application for the same purpose of reducing the complexity of video encoding of digital video bitstreams as taught by Cote et al. (See cote et al. [0007]).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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3. Claims 1-6, 9-11, and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Tahara et al. (US Patent no. 5657086).

Regarding claims 1 and 14, Tahara discloses the same apparatus and method for implementing non-reference frame prediction in video compression comprising the steps of setting a prediction flag (i) off if non-reference frames are used for block prediction (See Tahara Fig. 8, item 54, col. 9, lines 36-49, col. 10, lines 12-21) and (ii) on if non-reference frames are not used for block prediction; (See Tahara 8, item 54, col. 10, lines 12-17), (B) if said prediction flag is off, generating an output video signal in response to an input video signal by performing an inverse quantization step and an inverse transform step in accordance with a predefined coding specification (See Tahara col. 9, lines 42-62); and (C) if said prediction flag is on, bypassing said inverse quantization step and said inverse transform step (See Tahara col. 10, lines 32-39, and col. 11, lines 13-20).

As per claim 2, Tahara further discloses the apparatus and method wherein the input video signal comprises a series of macroblocks (See Tahara col. 10, lines 18-20).

As per claims 3-5, most of the limitations of these claims have been noted in the above rejection of claim 2. In addition, Tahara further discloses a mode operation circuit wherein the ON and OFF state are activated based upon the prediction flag (See Tahara Fig. 8, items 53a, 53b, 53c and 53d along with item 54).

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As per claim 6, most of the limitations of this claim have been noted in the above rejection of claim 2. In addition, Tahara further discloses storing which of the mode that was used to encode each of the macroblock, and if the mode information is needed to encode a macroblock, reconstructing the mode used macroblock from an array information (See Fig. 12, items 86a and 86b, col. 11, lines 58-67 and col. 12, lines 1-7).

As per claims 9-10, and 13, most of the limitations of these claims have been noted in the above rejection of claim 1. In addition, Tahara further shows the reconstructed I-picture in fig. 15 input 300 and output 318 (the output 318 is the reconstructed I-frame).

As per claim 11, the setting of the prediction flag is considered meeting the limitations wherein the prediction flags comprises a constrained intra-prediction flag (See Tahara fig. 8, item 54 and 53, and col. 10, lines 32-42).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara et al. (US Patent no. 5657086) in view of Panasupone et al. (US Patent no. 6647061).

As per claim 7, most of the limitations of this claim have been noted in the above rejection of claim 1.

It is noted that Tahara is silent about the same method reducing complexity of non-reference frames that are not used for prediction.

However Panasupone discloses a compression method including the step of reducing complexity of non-reference frames that are not used for prediction (See Panasupone col. 18, lines 54-62).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Tahara's method of implementing non-reference frame prediction by incorporating Panasupone's step of reducing complexity of non-reference frames that are not used for prediction. The motivation for performing such a modification in Tahara is to reduce loss generated by the compression process.

6. Claim 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara et al. (US Patent no. 5657086) in view of Dumitras et al. (US Patent Application Publication no. 2004/0131121 A1).

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Regarding claims 8 and 15, most of the limitations of these claims have been noted in the above rejection of claim 1.

It is noted that Tahara is silent about the same method wherein the output video signal comprises an H.264 compliant encoded bitstream.

However, Dumitras discloses an encoding method wherein the output video signal comprises an H.264 compliant encoded bitstream (See Dumitras [0020]).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Tahara's method of implementing non-reference frame prediction by incorporating Dumitras' step wherein the output video signal comprises an H.264 compliant encoded bitstream. The motivation for performing such a modification in Tahara is to solve the encoding mode selection problem in a number of different manners as taught by Dumitras (See Dumitras [0021]).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara et al. (US Patent no. 5657086) in view of Tourapis et al. (US Patent Application no. 2007/0047648 A1).

Regarding claim 12, most of the limitations of this claim have been noted in the above rejection of claim 1.

It is noted that Tahara is silent about executing a deblocking filtering wherein in a first mode the deblocking is executed, and in a second mode the deblocking is skipped.

However, Tourapis discloses an encoding method wherein a deblocking filtering is executed in a first mode, and the deblocking filtering is skipped in a second mode (See Tourapis [0049], lines 5-20).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Tahara's method of implementing non-reference frame prediction by incorporating Tourapis' encoding method wherein a deblocking filtering is executed in a first mode, and the deblocking filtering is skipped in a second mode. The motivation for performing such a modification in Tahara is to increase the correlation between adjacent pixels mainly at block and macroblock edges to reduce the blockiness introduced in the decoded picture as taught by Tourapis (See Tourapis [0049], lines 1-5).

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki (US Patent no. 5748243) teaches method for encoding and decoding motion picture as a function of its non-linear characteristic.

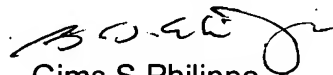
Yagasaki et al. (US Patent no. 5663763) teaches picture signal encoding method and apparatus and picture signal decoding method and apparatus.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dastouri Mehrdad can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Gims S Philippe
Primary Examiner
Art Unit 2621

GSP

March 10, 2007